

Work Order ID 144941

Wednesday, April 27, 2016 3:15:53 PM

144941

Page 1

Item ID: D4785-3

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Rib

Start Date: 4/27/2016 Start Qty: 8.00

Required Date: 5/11/2016 Req'd Qty: 8.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: MCS

Date: APR 28 2016

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4785	B								
100		0.00							
100									
Large Fab	Memo	2.24							
Large Fab	1- Cut tube as per dwg D4785 2- remove identification marks and deburr								
110	QC6- Inspect dimensions to drawing	0.00							
110									
QC	Memo	0.00							
Quality Control									
120	Identify as per dwg & Stock Location: <u>WVA 04</u>	0.00							
120									
Packaging	Memo	0.08							
Packaging	LOCATION: WA004								

4 9 16-09-17

4x **DAS 43** 9-89 **MAY 18 2016**

4x **DAS 43** 9-89 **MAY 18 2016**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 144941

Wednesday, April 27, 2016 3:15:53 PM

144941

Page 2

Item ID: D4785-3

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Rib

Stop ***NS2***

Start Date: 4/27/2016 Start Qty: 8.00

8

Cust Item ID:

Required Date: 5/11/2016 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC21- Final Inspection - Work Order Release

0.00

130

QC

Memo

0.80

Quality Control

16/5/19 *[Signature]*
UMF
16-5-18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Picklist Print

Wednesday, April 27, 2016 3:15:59 PM

Page 1

Work Order ID: 144941

Parent Item: D4785-3

Parent Item Name: Rib

144941

D4785-3

Start Date: 4/27/2016

Required Date: 5/11/2016

Start Qty: 8.00

Required Qty: 8.00

Comments:

IPP REV:A 13.03.14 NEW ISSUE VERF:JLM
13.06.21 DWG REV.B DD VERF:JFS

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TS0.500W.049		Purchased	No			100	f	1,415.314	0.96	8.084211			

M304TS0 500W 049

Square Tubing

M134104 9 16-05-17

Location

WA004

Loc Qty

1415.31421

M134104

185.31421

M134486

650

M134618

580

Loc Code

-9

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

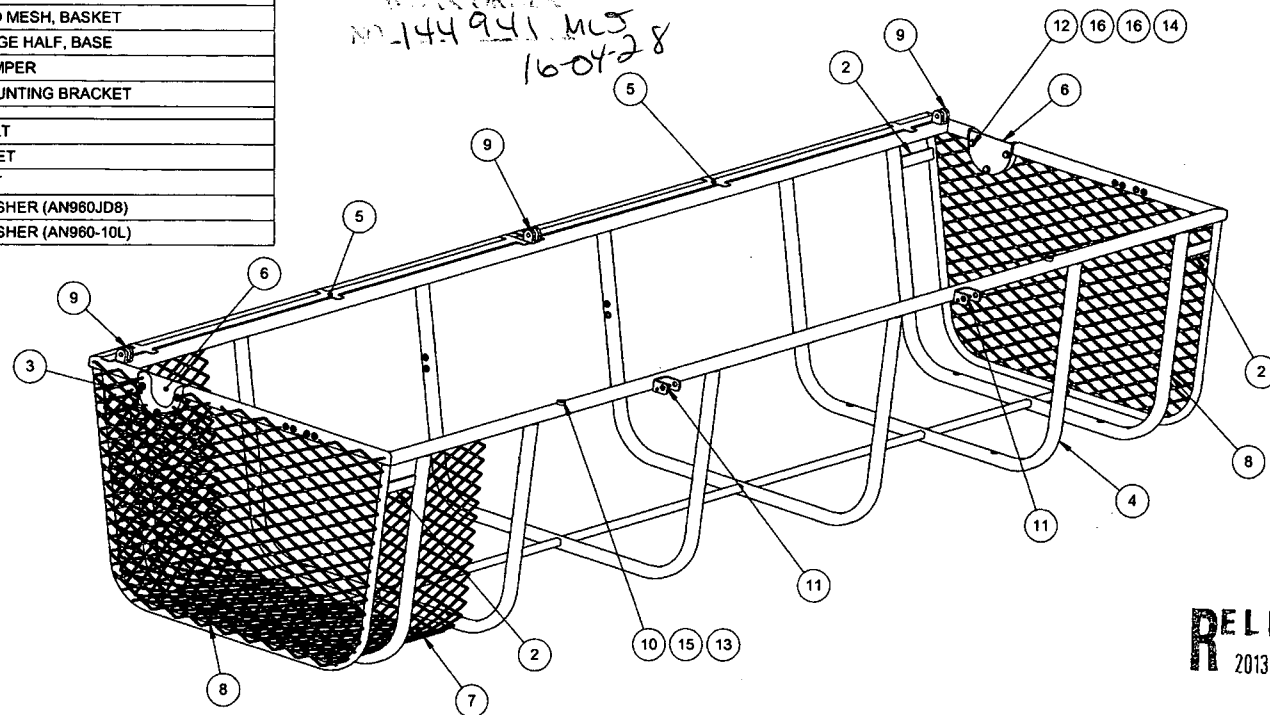
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

ITEM NO.	QTY. -041	PART NUMBER	DESCRIPTION
1	X	D4785-041	LONG BASKET BASE ASSY, LH/RH
2	3	D4793-1	HANDLE PLATE
3	1	D4793-3	WIDE HANDLE PLATE
4	1	D4785-101	TUBULAR ASSEMBLY, LH/RH
5	2	D4672-1	BLANKING PLATE
6	2	D4021-5	BLANKING PLATE
7	1	D4020-1	MESH BASKET LONG, BASE
8	2	D4020-11	END MESH, BASKET
9	3	D4016-1	HINGE HALF, BASE
10	2	D2931	BUMPER
11	2	D2581	MOUNTING BRACKET
12	6	AN3-10A	BOLT
13	2	MS20600AD4W3	RIVET
14	6	MS21042L3	NUT
15	2	NAS1149DN832J	WASHER (AN960JD8)
16	12	NAS1149F0332P	WASHER (AN960-10L)

SAFETY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO REVISION
WORK OFFICE
WORK ORDER
NO-144941 MJS
16-04-28



D4785-041 LONG BASKET BASE ASSY, LH/RH

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 50.42 lbs APPROX
- 8) INSTALL AFTER FINISH
- 9) MASK HOLES PRIOR TO POWDER COAT
- 10) WELD PER DART QSI 004

B	REPLACE D3916-5 WITH D4785-117 (ZN B5-4, B4-4, B5-7); REVISE D4785-5 DIMENSION (ZN B5-5)	RF	13.06.11
A	NEW ISSUE	RF	13.05.24
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	RF		
CHECKED	DC		
MFG. APPR.	D		
APPROVED			
DE APPR.			
DATE	13.06.11		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

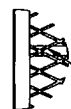
DRAWING NO. **D4785** REV. B
SHEET 1 OF 7
TITLE **LONG BASKET BASE ASSY** SCALE NTS

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RELEASED
2013-06-20
MJS

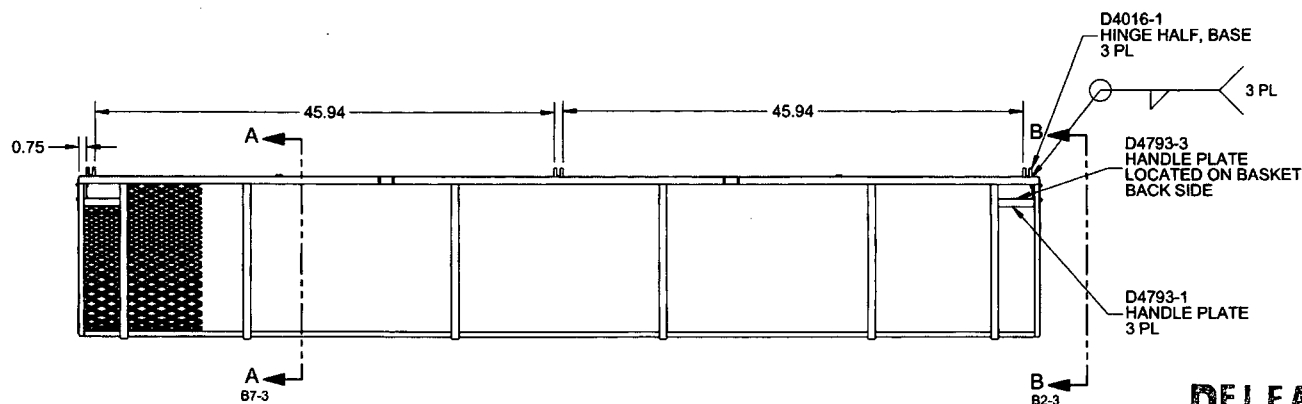
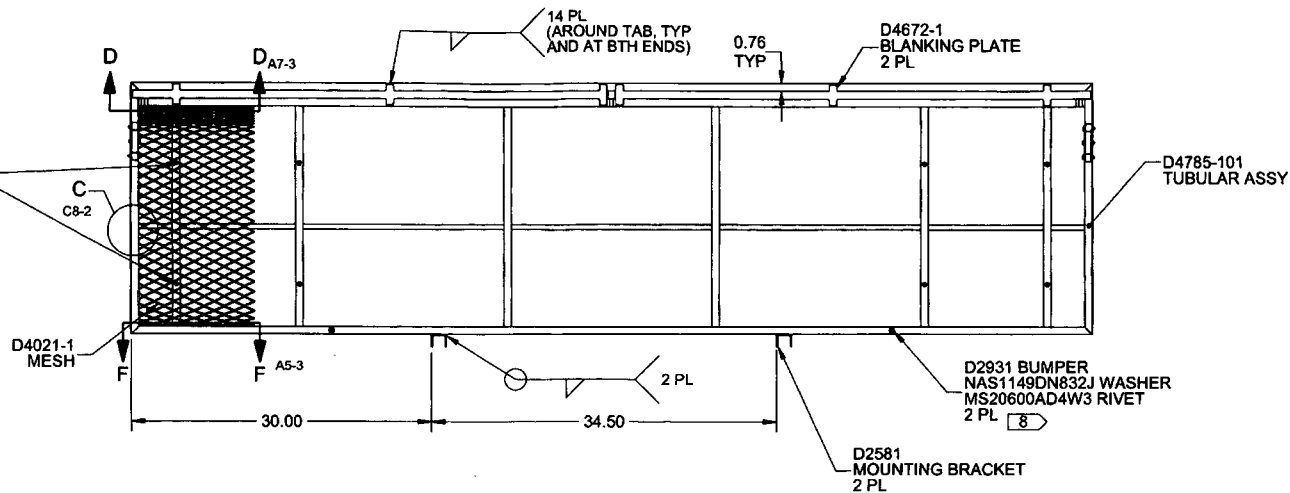
TRIM MESH LOCALLY
 $\phi 0.50 - \phi 0.60$
 TO CLEAR BUSHINGS
 TYP

D4021-1
 MESH



TACK WELD MESH
 AT EVERY AVAILABLE
 LOCATION

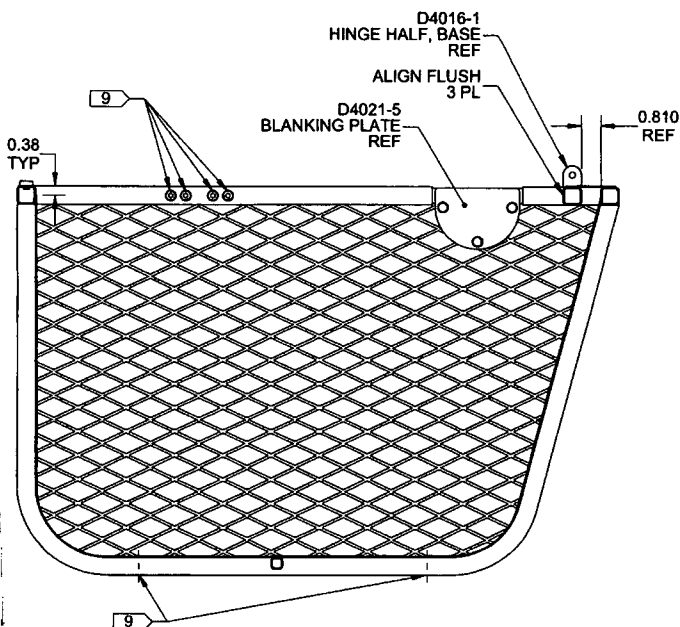
DETAIL C D7-2



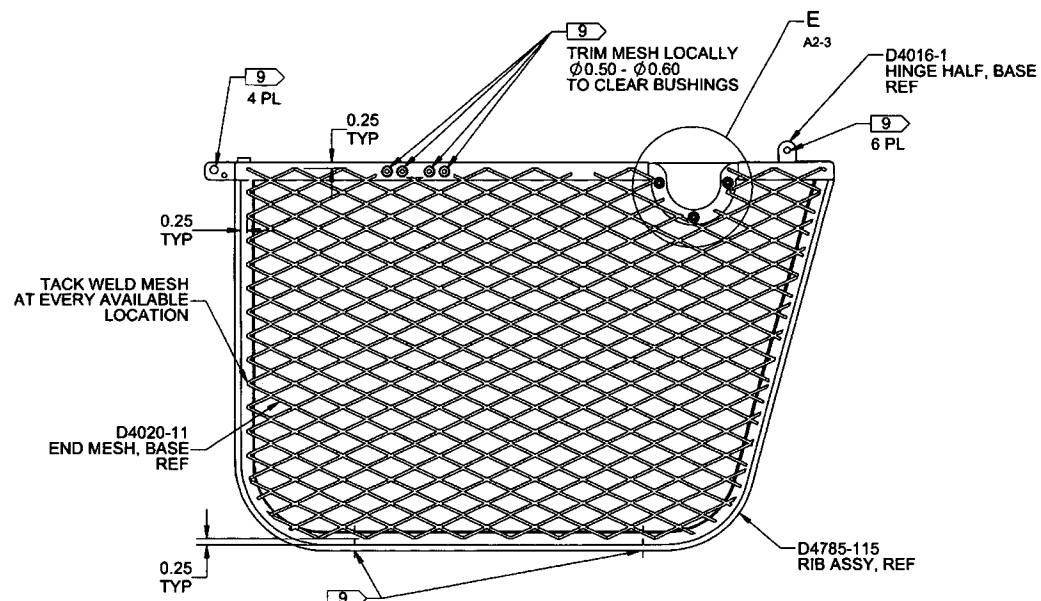
D4785-041 LONG BASKET BASE ASSY. LH/RH
 (MESH SHOWN LOCALLY FOR CLARITY)

RELEASED
 2013-06-20

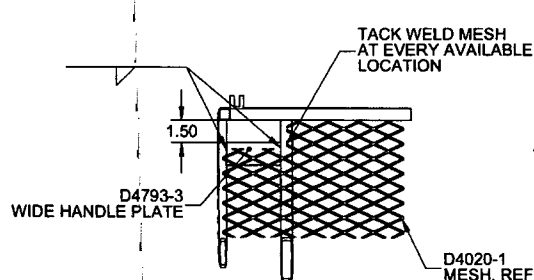
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	BC	DRAWING NO.	REV. B
MFG. APPR.	DA	D4785	SHEET 2 OF 7
APPROVED	DA	TITLE	SCALE
DE APPR.	DA	LONG BASKET BASE ASSY	NTS
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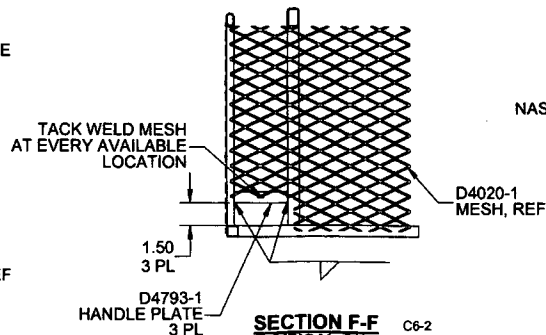
SECTION A-A B7-2



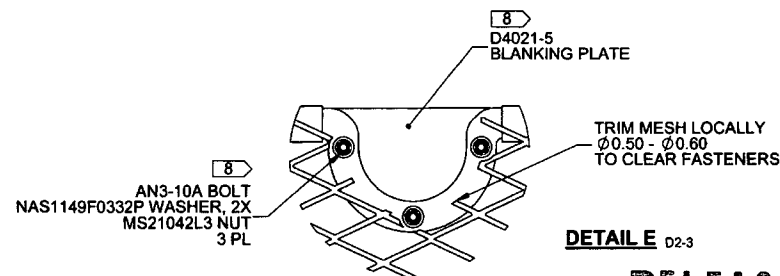
SECTION VIEW B-B A2-2



SECTION D-D D6-2



SECTION F-F C6-2
TYPICAL ON
3 PL

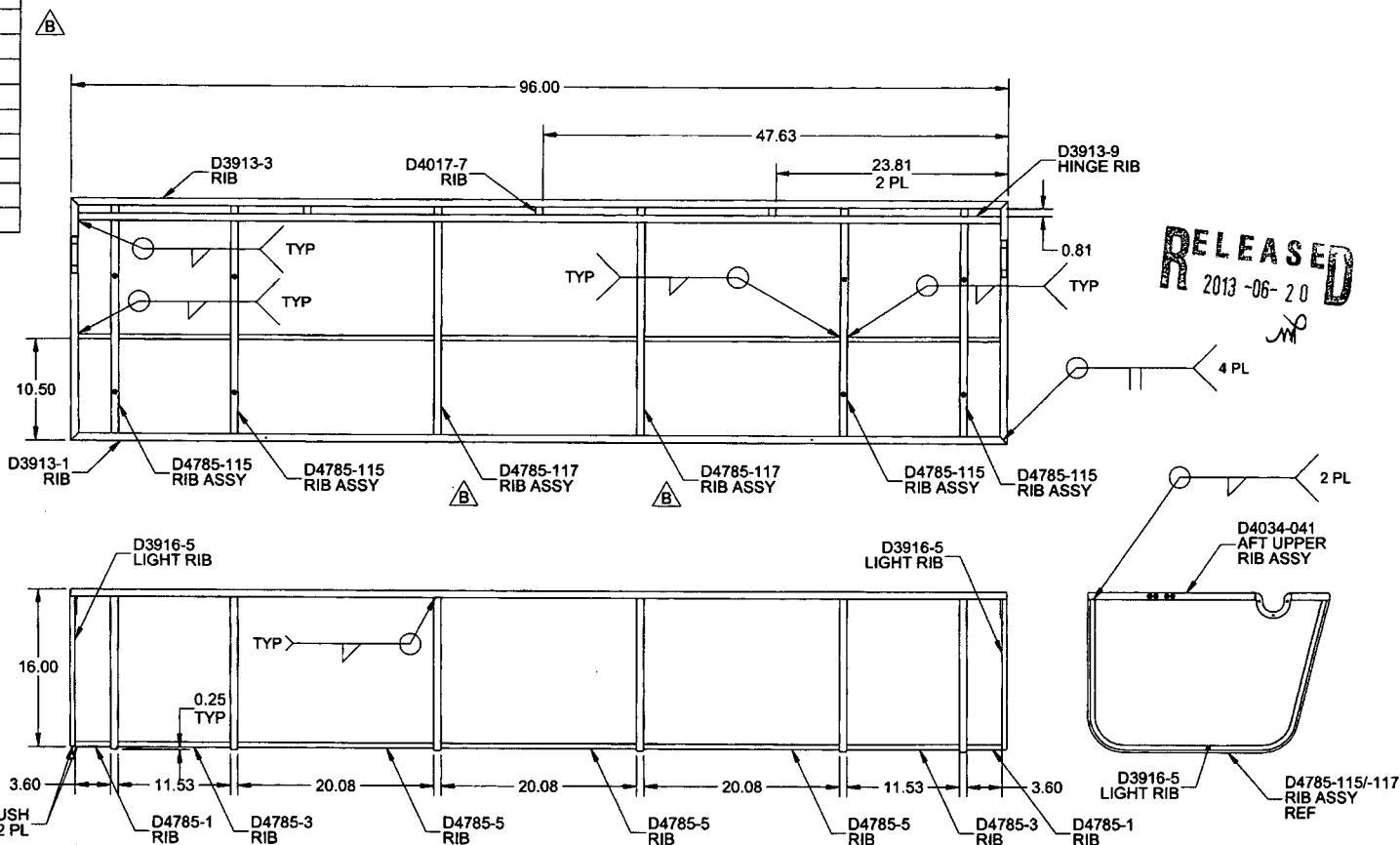


DETAIL E D2-3

RELEASED
2013-06-20

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	DC	DRAWING NO.	REV. B
MFG. APPR.		D4785	SHEET 3 OF 7
APPROVED		TITLE	SCALE
DE APPR.		LONG BASKET BASE ASSY	NTS
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ITEM NO.	QTY. -101	PART NUMBER	DESCRIPTION
1	X	D4785-101	TUBULAR ASSEMBLY
2	2	D4785-1	RIB
3	3	D4785-5	RIB
4	4	D4785-115	RIB ASSEMBLY
5	2	D4785-117	RIB ASSEMBLY
6	2	D4785-3	RIB
7	3	D4017-7	RIB
8	1	D4034-041	AFT UPPER RIB ASSY
9	1	D4034-043	FWD UPPER RIB ASSY
10	2	D3916-5	RIB, LIGHT
11	1	D3913-1	RIB
12	1	D3913-3	RIB
13	1	D3913-9	HINGE RIB

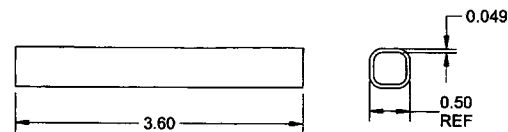


NOTES:

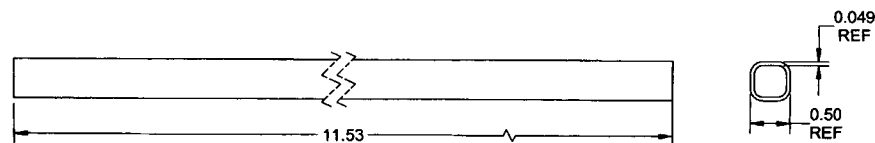
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 28.65 lbs
- 8) WELD PER DART QSI 004

D4785-101 TUBULAR ASSEMBLY, LH/RH

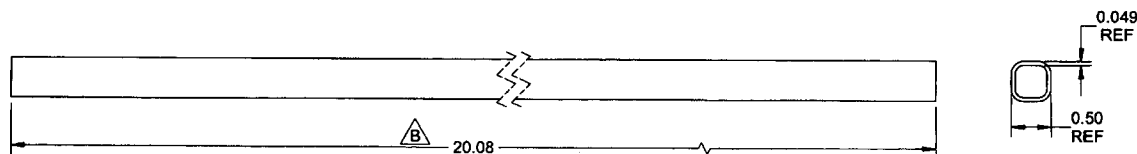
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4785 REV. B SHEET 4 OF 7 TITLE LONG BASKET BASE ASSY SCALE NTS
DRAWN	RF	
CHECKED	DC	
MFG. APPR.	DC	
APPROVED	DC	
DE APPR.	DC	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD
DATE	13.06.11	



D4785-1 RIB



D4785-3 RIB



D4785-5 RIB

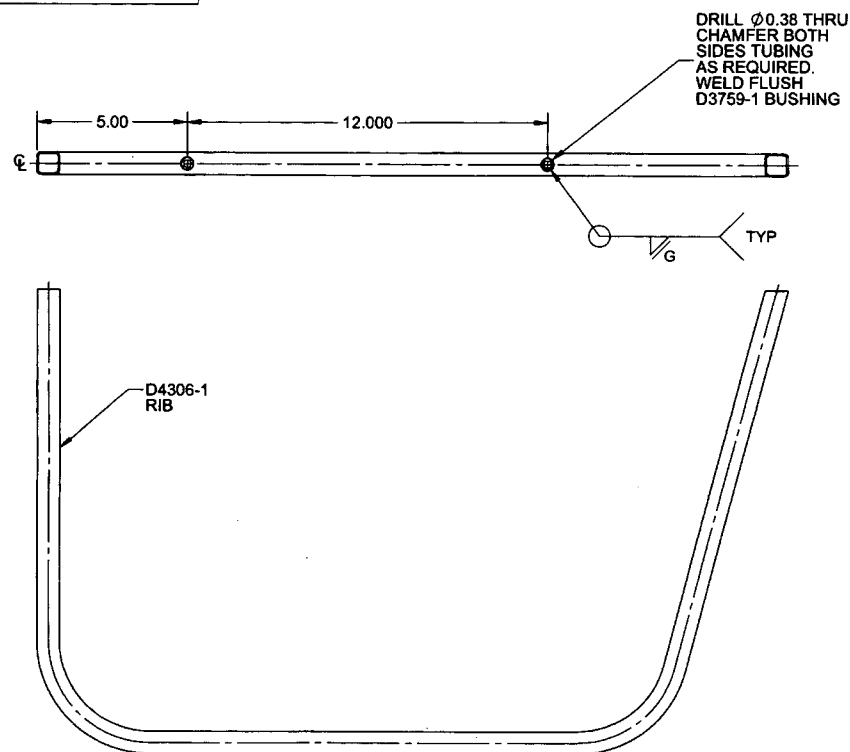
NOTES:

- 1) MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBE, 0.50 x 0.50 x 0.049 WALL
PER ASTM A554 OR ASTM A269 MILL FINISH
REF DART SPEC. M304TS0.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: SEE ASSEMBLED WEIGHTS

RELEASED
2013-06-20
MT

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	BC	DRAWING NO.	REV. B
MFG. APPR.	[Signature]	D4785	SHEET 5 OF 7
APPROVED	[Signature]	TITLE	SCALE
DE APPR.	[Signature]	LONG BASKET BASE ASSY	NTS
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ITEM NO.	QTY. -115	PART NUMBER	DESCRIPTION
1	X	D4785-115	RIB ASSEMBLY
2	1	D4306-1	RIB
3	2	D3759-1	BUSHING



D4785-115 RIB ASSEMBLY
MAKE FROM D4306-1 RIB

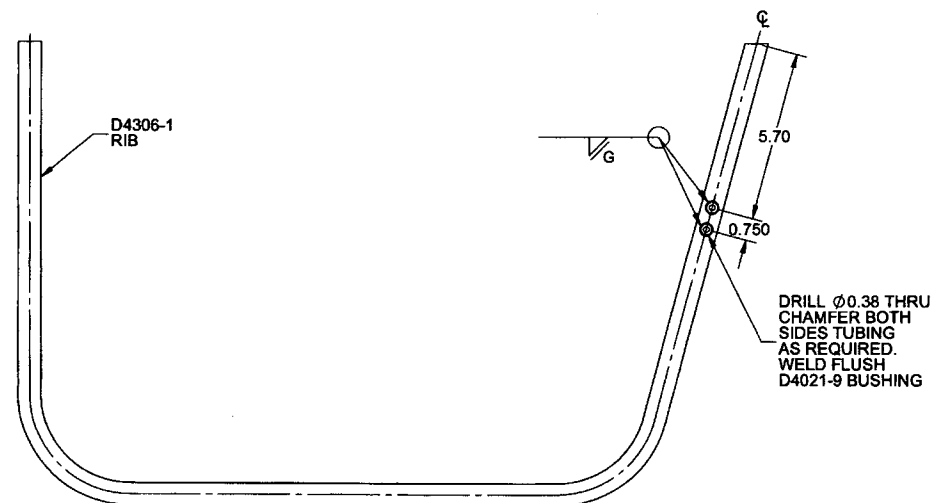
RELEASED
2013-06-20
JND

NOTES:

- 1) MATERIAL: D4306-1 RIB
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.80 lbs
- 8) WELD PER DART QSI 004

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	JC	DRAWING NO.	REV. B
MFG. APPR.	N	D4785	SHEET 6 OF 7
APPROVED	#	TITLE	SCALE
DE APPR.	#	LONG BASKET BASE ASSY	NTS
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ITEM NO.	QTY. -117	PART NUMBER	DESCRIPTION
1	X	D4785-117	RIB ASSEMBLY
2	1	D4306-1	RIB
3	2	D4021-9	BUSHING



D4785-117 RIB ASSEMBLY 
MAKE FROM D4306-1 RIB

NOTES:

- 1) MATERIAL: D4306-1 RIB
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.81 lbs
- 8) WELD PER DART QSI 004

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>BC</i>	DRAWING NO. D4785	REV. B
MFG. APPR.	<i>N</i>	TITLE	SHEET 7 OF 7
APPROVED	<i>S</i>	LONG BASKET BASE ASSY	SCALE NTS
DE APPR.	<i>S</i>	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	13.06.11		

RELEASED
2013-06-20
MD